

with this section, but must continue to comply with applicable paragraphs of § 135.152 of this chapter, as appropriate: Beech Aircraft-99 Series, Beech Aircraft 1300, Beech Aircraft 1900C, Construcciones Aeronauticas, S.A. (CASA) C-212, deHavilland DHC-6, Dornier 228, HS-748, Embraer EMB 110, Jetstream 3101, Jetstream 3201, Fairchild Aircraft SA-226, Fairchild Metro SA-227.

(g) All airplanes subject to the requirements of this section that are manufactured on or after April 7, 2010, must have a digital flight data recorder installed that also—

(1) Meets the requirements in § 23.1459(a)(3), (a)(6), and (a)(7) or § 25.1459(a)(3), (a)(7), and (a)(8) of this chapter, as applicable; and

(2) Retains the 25 hours of recorded information required in § 121.344(g) using a recorder that meets the standards of TSO-C124a, or later revision.

[Doc. No. 28109, 62 FR 38380, July 17, 1997; 62 FR 48135, Sept. 12, 1997; 62 FR 65202, Dec. 11, 1997, as amended by Amdt. 121-300, 68 FR 42936, July 18, 2003; Amdt. 121-338, 73 FR 12566, Mar. 7, 2008; Amdt. 121-338, 74 FR 32801, July 9, 2009; Amdt. 121-347, 75 FR 7356, Feb. 19, 2010]

#### § 121.345 Radio equipment.

(a) No person may operate an airplane unless it is equipped with radio equipment required for the kind of operation being conducted.

(b) Where two independent (separate and complete) radio systems are required by §§ 121.347 and 121.349, each system must have an independent antenna installation except that, where rigidly supported nonwire antennas or other antenna installations of equivalent reliability are used, only one antenna is required.

(c) ATC transponder equipment installed within the time periods indicated below must meet the performance and environmental requirements of the following TSO's:

(1) *Through January 1, 1992:* (i) Any class of TSO-C74b or any class of TSO-C74c as appropriate, provided that the equipment was manufactured before January 1, 1990; or

(ii) The appropriate class of TSO-C112 (Mode S).

(2) *After January 1, 1992:* The appropriate class of TSO-C112 (Mode S). For purposes of paragraph (c) (2) of this section, "installation" does not include—

(i) Temporary installation of TSO-C74b or TSO-C74c substitute equipment, as appropriate, during maintenance of the permanent equipment;

(ii) Reinstallation of equipment after temporary removal for maintenance; or

(iii) For fleet operations, installation of equipment in a fleet aircraft after removal of the equipment for maintenance from another aircraft in the same operator's fleet.

[Doc. No. 6258, 29 FR 19205, Dec. 31, 1964, as amended by Amdt. 121-101, 37 FR 28499, Dec. 27, 1972; Amdt. 121-190, 52 FR 3391, Feb. 3, 1987]

#### § 121.346 Flight data recorders: filtered data.

(a) A flight data signal is filtered when an original sensor signal has been changed in any way, other than changes necessary to:

(1) Accomplish analog to digital conversion of the signal;

(2) Format a digital signal to be DFDR compatible; or

(3) Eliminate a high frequency component of a signal that is outside the operational bandwidth of the sensor.

(b) An original sensor signal for any flight recorder parameter required to be recorded under § 121.344 may be filtered only if the recorded signal value continues to meet the requirements of Appendix B or M of this part, as applicable.

(c) For a parameter described in § 121.344(a) (12) through (17), (42), or (88), or the corresponding parameter in Appendix B of this part, if the recorded signal value is filtered and does not meet the requirements of Appendix B or M of this part, as applicable, the certificate holder must:

(1) Remove the filtering and ensure that the recorded signal value meets the requirements of Appendix B or M of this part, as applicable; or

(2) Demonstrate by test and analysis that the original sensor signal value can be reconstructed from the recorded data. This demonstration requires that:

(i) The FAA determine that the procedure and the test results submitted